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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,255	03/17/2004	Pim van Meurs	TEGI0012CIP	5958

22862 7590 07/29/2005

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EXAMINER	
HAN, QI	

ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 07/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/803,255	MEURS ET AL.	
	Examiner	Art Unit	
	Qi Han	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-82 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-82 is/are rejected.

7)☒ Claim(s) 28,30,32,34,35,37-39,45-48,51,54,55,57,59,61,62,64-66,72,73,76 and 79-82 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 17 March 2004 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 03/17/2004.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The references listed in the Information Disclosure Statement submitted on 03/17/2004 have been considered by the examiner (see attached PTO-1449).

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Regarding claims 26, 54 and 81, the limitation of "a special wildcard input that is associated with any or all tones" lacks antecedent basis and/or clear description in the specification (see closet disclosure on page 22, lines 20-23).

Regarding claim 46, the limitation of "a special wildcard input that is associate with zero or one of strokes" lacks antecedent basis and/or clear description in the specification (see closet disclosure on page 22, lines 20-23).

Claim Objections

3. Claims 28, 30, 32, 34-35, 37-39, 45-48, 51, 54-55, 57, 59, 61-62, 64-66, 72-73, 76, 79, 80 and 81-82 are objected to because of the following informalities:

Regarding claim 28, the claim is duplicated with claim 4. Appropriate correction or cancellation is required.

Regarding clam 30, the recitation "The method of claim 28" appears to be --The method of claim 29-- and will be interpreted as so hereinafter. Appropriate correction is required.

Regarding clams 32, 34-35, 37-39, 45-48, 51 and 54-55, these claims appear to depend on claim 29 (not claim 28, since claim 28 is a method claim), and will be interpreted as so hereinafter. Appropriate correction is required.

Regarding clams 57, 59, 61-62, 64-66, 72-73, 76, 79 and 81-82, these claims appear to depend on claim 56 (not claim 55, since claim 55 is an apparatus (system) claim), and will be interpreted as so hereinafter. Appropriate correction is required.

Regarding clam 80, the claim appears to depend on claim 79 (not claim 78) and will be interpreted as so hereinafter. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 25 and 80 recite the limitation "the number of partial keystrokes" in first line of the claims. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-15, 17, 19-23, 29-43, 45, 47, 49-53, 56-70, 72 and 74-78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (US 6,073,146).

As per **claim 29**, Chen discloses system and method for processing Chinese language text (title), comprising:

"a user input device having a plurality of input means, each of said input means being associated with a plurality of strokes or phonetic characters, an input sequence being generated each time when an input is selected by said user input device" (column 4, lines 28-43, 'entering phonetic Chinese (Pinyin and BPMF), 'the system has a novel keyboard (input device that has multiple keys that interpreted as a plurality of input means) with diacritic keys', 'a process ...determines that a syllable (an input) has been entered (selected) when a diacritic key is struck'; column 1, 'Five-Stroke method' and 'phonetic input');.

"an input method specific database containing a plurality of input sequences and, associated with each input sequence, a set of phonetic sequences whose spellings correspond to the input sequence or a set of strokes sequences corresponding to the input sequence" (Fig. 3 and column 9, line 55 to column 10, line 49, 'a data structure 300 for the ASCII coding for Pinyin or mixed input (input sequences)'; Fig. 7 and column 11, line 62 to column 12, line 67, 'the Chinese syllable list 700 (including phonetic sequences)'; which corresponds to the claimed "input method specific database") ;

"an ideographic database containing a set of ideographic character sequences, wherein each ideographic character contains an ideographic index" and "a plurality of phonetic indices to corresponding phonetic sequences" (column 4, lines 3-17, 'converting phonetic Chinese (Pinyin or BPMF) input to character writing (Hanzi) (ideographic character)', and using 'square-

character (Hanzi) stream in the GB2312-80 form' (corresponding to Hanzi database or an ideographic database); column 6, lines 20-32, 'displays the Pinyin characters 1020' and 'the Hanzi characters 1025', which inherently includes indices between the related phonetic sequences and ideographic character; column 1, lines 38-53, 'Five-stroke methods' that inherently include indices between the related stroke sequences and ideographic character');

"means for comparing the input sequence with said input method specific database and finding indices to matching strokes entries or phonetic entries and said matching stroke entries or phonetic entries" (column 4, lines 44-49, 'the word string (input sequence) is compared to a dictionary (also interpreted as input method specific database) of phonetic words'; column 11, lines 21-22, 'matched string is used as a syllable input');

"means for converting said matching indices to stroke entries or phonetic entries to matching ideographic indices" (column 4, lines 3-17, 'converting phonetic Chinese (Pinyin or BPMF) input to character writing (Hanzi) (ideographic character)', wherein the dictionary and Hanzi database stated above necessarily include entries and indices);

"means for retrieving matching ideographic character sequences from said ideographic database by said matching ideographic indices; and an output device for displaying one or more matched stroke or phonetic entries, and matched ideographic characters" (column 6, lines 27-29, 'the system...converts the Pinyin into Hanzi (ideographic character), and displays (including retrieval) the Hanzi characters on a second section of the graphical interface').

But, Chen does not expressly disclose that the preferred system using ideographic character with "a plurality of stroke indices to corresponding stroke sequences". However, the feature of using a stroke based input method (inherently including stroke indices) is well known

in the art as evidenced by Chen himself, who discloses the well-known 'Five-Stroke method' for inputting Chinese character (column 1, lines 38-53), which includes stroke sequence and the related indices. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Chen's preferred embodiment by specifically providing the Five-Stroke method for inputting Chinese characters, as taught by Brash, for the purpose of offering both new and well-known input method/system for inputting Chinese characters.

As per **claim 31** (depending on claim 29), as stated above, Chen discloses "said stroke input system is 5-stroke or 8-stroke system" (column 1, lines 38-53).

As per **claim 32** (depending on claim 29), as stated above, Chen discloses "said phonetic indices are indices of phonetic characters sorted by actual spelling in a phonetic input system" (column 4, line 29, 'Pinyin and BPMF' read on the claim).

As per **claim 33** (depending on claim 31), as stated above, Chen discloses "said phonetic input system is a Pinyin system or a Zhuyin system" (column 4, line 29, 'Pinyin and BPMF').

As per **claim 34** (depending on claim 29), as stated above, Chen discloses "said phonetic indices are indices of input means in a phonetic input system" (column 4, line 29, 'Pinyin and BPMF' read on the claim).

As per **claim 35** (depending on claim 29), Chen further discloses "means for prioritizing stroke or phonetic sequences that match an input sequence and prioritizing ideographic character sequences that match a matching stroke or phonetic sequence according to a linguistic model" (column 12, lines 63-67, 'the most probable syllable is displayed' and 'best matches...selected' (interpreted as prioritizing); abstract, 'using... a statistical language model (linguistic model)').

As per **claim 36** (depending on claim 29), Chen further discloses "said linguistic model comprises at least one of: ... ; frequency of occurrence of ideographic character sequences, stroke sequences or phonetic sequences in formal or conversational written text; frequency of occurrence of ideographic character sequences, stroke sequences or phonetic sequences when following a preceding character or characters; ..." (column 18, lines 45-62, 'statistics of the relative word occurrence in the phrase (reflecting frequency of occurrence)', which reads on the claim).

As per **claim 37** (depending on claim 29), as stated above, Chen discloses "said phonetic sequences comprise single syllables" (column 4, lines 29-47, 'phonetic input (sequences)', 'the word string' and 'Pinyin', which necessarily includes single syllables; column 3, line 9, 'single words (corresponding to single syllable phonetic sequences)').

As per **claim 38** (depending on claim 29), as stated above, Chen discloses "said phonetic sequences comprise both single and multiple syllables" (column 4, lines 29-47, 'phonetic input (sequences)', 'the word string' and 'Pinyin', which necessarily includes both single and multiple syllables; column 3, lines 6-56, 'single words (corresponding to single syllables)', 'multiple-syllables').

As per **claim 39** (depending on claim 29), Chen further discloses "said phonetic sequences comprise user generated sequences" (column 6, lines 20-21, 'user uses keyboard to enter (generate) Pinyin text input (sequences)').

As per **claim 40** (depending on claim 38), Chen further discloses "in absence of matching phonetic sequences in said database, a sequence of matching phonetic sequences is automatically generated based on single and optionally multiple syllable phonetic sequences" (column 4, lines

51-61, 'if the word string has no matches in the dictionary, a morphological analysis is done (automatically)...any standard affixes are removed from the word string, the remaining word string (root) (may be single syllable word) is re-analyzed'; column 3, lines 6-56, 'single words (corresponding to single syllable phonetic sequences)', 'multiple-syllable words (phonetic sequences)').

As per **claim 41** (depending on claim 39), Chen further discloses "said sequence of matching phonetic sequences is narrowed down through user interaction" (column 12, lines 63-67, 'the user selects the proper syllable from the menu (narrowed down through user interaction)').

As per **claim 42** (depending on claim 39), as stated above, Chen discloses "a sequence of matching ideographic character sequences is automatically generated based on matching phonetic sequences to ideographic character sequences" (column 6, lines 27-29, 'the system ... converts the Pinyin (phonetic sequences) into Hanzi (ideographic character)').

As per **claim 43** (depending on claim 31), as stated above, Chen discloses "a sequence of matching ideographic character sequences is narrowed down through user interaction" (column 18, lines 55-60, 'the result on the Hanzi 1024 portion (ideographic character sequences)...the remaining candidates are presented to the user ...for selection (narrowed down through user interaction)', '1025 is subject to manual correction by the user').

As per **claim 45** (depending on claim 29), Chen further discloses "the user can specify a particular tone for the phonetic syllable" (column 4, lines 33-4, 'permit the user to annotate (specify) each entered phonetic test syllable with a diacritic that indicates the tone of the syllable').

As per **claim 47** (depending on claim 29), Chen further discloses "the user can specify an explicit ideographic character separator" (column 10, line 60 to column 11, line 10, 'the user enters a syllable through the keyboard...delimited by special delimiters, i.e. a space').

As per **claim 49** (depending on claim 47), Chen further discloses "the sequence is ordered according to the frequency of use based on a linguistic model" (column 18, lines 45-62, 'statistics of the relative word occurrence in the phrase (interpreted as frequency of use)', 'the most probable (ordered) word of the remaining notional word candidates', 'statistical model').

As per **claim 50** (depending on claim 48), the rejection is based on the same reason as described for claim 36, because the claim recites the same or similar limitation(s) as claim 36.

As per **claim 51** (depending on claim 29), the rejection is based on the same reason as described for claim 43, because the claim recites the same or similar limitation(s) as claim 43.

As per **claim 52** (depending on claim 50), the rejection is based on the same reason as described for claim 49, because the claim recites the same or similar limitation(s) as claim 49.

As per **claim 53** (depending on claim 51), the rejection is based on the same reason as described for claim 36, because the claim recites the same or similar limitation(s) as claim 36.

As per **claims 1-15, 17 and 19-23**, they recite a method. The rejection is based on the same reason described for claims 29-43, 47 and 49-53 respectively, because the claims recite the same or similar limitation(s) as claims 29-43, 47 and 49-53 respectively.

As per **claims 56-70, 72 and 74-78**, they recite a computer readable medium. The rejection is based on the same reason described for claims 29-43, 47 and 49-53 respectively, because the claims recite the same or similar limitation(s) as claims 29-43, 47 and 49-53 respectively

6. Claims 16, 18, 24-25, 44, 48, 71, 73 and 79-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Lee et al. (US 6,848,080 B1) hereinafter referenced as Lee.

As per **claim 44** (depending on claim 35), Chen does not expressly disclose "changing the associated priority of the matching phonetic sequence and the sequence of ideographic characters once an ideographic character sequence is selected". However, the feature of changing priority of a matching process is well known in the art as evidenced by Lee who teaches language input architecture for converting one text form to another text form with tolerance to spelling, typographical, and conversion errors (title), comprising 'the syllable mapping training technique', in which 'the frequency of letters mapped to each syllable is updated', the update 'is repeated for each text string contained in the training data entered by the trainers (can be users)' (column 13, lines 16-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Chen by specifically providing a syllable mapping training technique for updating a frequency related parameter, as taught by Lee, for the purpose of improving accuracy for finding most probable string for an input system (Lee: abstract).

As per **claim 48** (depending on claim 35), event though Chen discloses "the user is returned a sequence of phonetic sequences of exact matches" (column 6, lines 24, 'displays (returns) the Pinyin characters 1023[1022]'), Chen does not expressly disclose "predictions that partially match". However, the feature of changing priority of a matching process is well known in the art as evidenced by Lee who further teaches that 'a trigram model considers the two most

previous characters in a text string to predict the next character (partially match)' (column 11, 3-4). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Chen by specifically providing a trigram model for predicting partial string, as taught by Lee, for the purpose of offering different probable candidates for the match (Lee: column 11, lines 35).

As per **claim 16** (depending on claim 7), the rejection is based on the same reason as described for claim 44, because the claim recites the same or similar limitation(s) as claim 44.

As per **claim 18** (depending on claim 1), the rejection is based on the same reason as described for claim 48, because the claim recites the same or similar limitation(s) as claim 48.

As per **claim 24** (depending on claim 1), the rejection is based on the same reason as described for claim 48, because the rejection for claim 48 covers the same or similar limitation(s) of this claim.

As per **claim 25** (depending on claim 24), the rejection is based on the same reason as described for claim 48, because the rejection for claim 48 covers the same or similar limitation(s) of this claim.

As per **claim 71** (depending on claim 61), the rejection is based on the same reason as described for claim 44, because the claim recites the same or similar limitation(s) as claim 44.

As per **claim 73** (depending on claim 56), the rejection is based on the same reason as described for claim 48, because the claim recites the same or similar limitation(s) as claim 48.

As per **claim 79** (depending on claim 56), the rejection is based on the same reason as described for claim 24, because the claim recites the same or similar limitation(s) as claim 24.

As per **claim 80** (depending on claim 79), the rejection is based on the same reason as described for claim 25, because the claim recites the same or similar limitation(s) as claim 25.

7. Claims 26-27, 46, 54-55 and 81-82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of well known prior art (MPEP 2144.03).

As per **claim 46** (depending on claim 29), Chen does not expressly disclose "one of said plurality of inputs is associated with **a special wildcard** input that is associated with any or all tones". However, an official notice is taken that the concept of using a wildcard for comparing, matching, or filtering an input symbols/texts is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Chen by specifically providing a wildcard for comparing, matching, or filtering an input symbols/texts, for the purpose of matching a set of symbols/texts.

As per **claim 54** (depending on claim 29), the rejection is based on the same reason as described for claim 46, because the claim recites the same or similar limitation(s) as claim 46.

As per **claim 55** (depending on claim 29), the rejection is based on the same reason as described for claim 46, because the claim recites the same or similar limitation(s) as claim 46.

As per **claims 26-27** (depending on claim 1), the rejection is based on the same reason described for claims 54-55 respectively, because the claims recite the same or similar limitation(s) as claims 54-55 respectively.

As per **claims 81-82** (depending on claim 56), the rejection is based on the same reason described for claims 54-55 respectively, because the claims recite the same or similar limitation(s) as claims 54-55 respectively.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qi Han whose telephone numbers is (703) 305-5631. The examiner can normally be reached on Monday through Thursday from 9:00 a.m. to 7:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (703) 305-9645.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: ebc@uspto.gov. For general information about the PAIR system, see http://pair-direct.uspto.gov.

QH/qh
June 10, 2005

RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER